Effects of the Intelligent-Turtle Massage on the Physical Symptoms and Immune Functions in Patients with Chronic Fatigue Syndrome

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Objective: To evaluate the effects of the intelligent-turtle massage on the physical symptoms and immune functions in patients with chronic fatigue syndrome (CFS). **Methods:** 182 cases of CFS were randomly divided into an experimental group of 91 cases treated by the intelligent-turtle massage, and a control group of 91 cases treated with the conventional massage method. After 2 courses of treatment, the therapeutic effects were statistically analyzed with the accumulated score for the improved clinical symptoms; and the changes of IgA, IgM and IgG were compared in 96 cases. **Results:** There was a significant difference between the two groups in the accumulated scores for improvement of the symptoms (P<0.05). A remarkable difference was found in the therapeutic effect. And there was a significant difference in the IgA, IgM and IgG levels between the two groups (P<0.05). **Conclusion:** The intelligent-turtle massage is an effective therapy for relieving the physical symptoms of CFS, and it may show certain effects on the immune functions.

Chronic fatigue syndrome (CFS) is commonly seen in clinic, manifested mainly by dysfunctions in the nervous system, cardiovascular system, digestive system, endocrine system, bone-muscle system and with mental and psychological problems. Different from the chronic fatigue, the CFS patients may have mental depression, anxiety, vexation and irritability, i.e. the mental and psychological symptoms. In the recent two years, the authors have used the intelligent-turtle massage for relieving the physical symptoms of CFS, with good results reported as follows.

CLINICAL MATERIALS

General data

In this series, the 182 cases of CFS were the patients from the First Hospital Affiliated to Guangzhou TCM University and the Second TCM Hospital of Guangdong Province. According to the serial number of patients joining the research, the INV and RAN keys of Casio fx-180 calculator were operated to get the random numerals. Patients with odd number were assigned to the experimental group, and those with even number to the control group. In the 91 cases of the experimental group, 72 cases were male and 19 female, aged 21–59 years (36.6 on the average), with the illness course ranging from 6 months to 12 years (4.02 years on the average). Of the 91 cases in the control group, 69 cases were male and 21 female, aged 21–62 years (37.0 on the average), with the illness course ranging from 6 months to 10 years (4.56 years on the average).

The data were comparable between the two groups with no significant difference found in age, sex and illness course (P<0.05).

The diagnostic criteria[1]

The patients conforming to item 1) or item 1) plus one or more of the other items in the following criteria were diagnosed to have CFS: 1) Extreme fatigue or subject to fatigue, which was unable to be relieved after taking a good rest, and with such conditions lasting over 6 months; 2) General lassitude with the cause unknown; 3) The muscles uncomfortable and painful but with no swelling; 4) Sore throat; 5) Headache or migraine; 6) Swelling or tenderness of the cervical and axillary lymph nodes; 7) Sleep disorder (insomnia or somnolence); and 8)

Physical fatigue after sports lasting over 24 hours.

Criteria for admission

1) The patients who conform to the above CFS diagnostic criteria. 2) The patients who have voluntarily signed a fact-known consent, and can cooperate well during the experiment. 3) The patients who have had CFS for more than half a year. 4) The patients aged 20–60 years, regardless of the sex. 5) The patients who have not received any treatments similar to the present intelligent-turtle massage.

Criteria for exclusion

1) The patients who have infectious skin diseases. 2) The patients who have menopausal syndrome or other organic disorders. 3) The patients who can not receive the present intelligent-turtle massage for certain subjective or objective reasons. 4) The patients who are complicated with tumors, severe cardio- and/or cerebrovascular diseases.

The scoring criteria for the physical symptoms of CFS (Table 1)

The full score for the physical symptoms is 48. The excellent result means that the symptoms basically disappear, or with an accumulated score for the improved clinical symptoms >38. The very good result means that the symptoms obviously improved or with an accumulated score for the improved clinical symptoms reaching 28–37. The fairly good result means that the symptoms fairly improved, or with an accumulated score for the improved clinical symptoms reaching 18–27. The poor result means no obvious improvement of the symptoms, or with an accumulated score for the improved clinical symptoms below 17.

Table 1. The scoring criteria for the physical symptoms of CFS.

Clinical symptoms	0+	1+	2+	3+
Extreme fatigue or subject to fatigue	No	Seldom occur	Often appear	Persistent with severe symptoms
	score 0	score 3	score 6	score 9
General lassitude	No	Seldom occur	Often appear	Persistent with severe symptoms
	score 0	score 3	score 6	score 9
Uncomfortable muscles, painful joints	No	Seldom occur with mild pain involving only one joint	Often appear with severe pain involving over 2 joints	Persistent with severe symptoms involving many joints, and need anodyne
	score 0	score 2	score 4	score 6
Sore throat	No	Sometimes occur with mild pain	Often appear with severe pain	Persistent with severe symptoms and need antichloristic
	score 0	score 1	score 2	score 3
Headache or migraine	No	Seldom occur, with the intermittent attack relieved automatically	Often appear with severe pain	Persistent with severe symptoms and need anodyne
	score 0	score 2	score 4	score 6
Swelling or tenderness of the cervical and axillary lymph nodes	No	lymph node 0.5-1 cm, with mild tenderness	lymph node 1-1.5 cm, with obvious tenderness	lymph node 1.5-2.5 cm, with severe tenderness
	score 0	score 1	score 2	score 3
Insomnia or somnolence	No	Sometimes occur	Often appear	Persistent, and need sleeping pills
	score 0	score 2	score 4	score 6
Fatigue after sports	No	Alleviated within 48 hours	Alleviated within 72 hours	Alleviated over 72 hours
Lasting over 24 hours	score 0	score 2	score 4	score 6

METHODS

For the experimental group

1) Selecting the opening point as the main one for stimulation according to the intelligent-turtle eight methods (灵龟八法): The numerals of the Heavenly Stems and Earthly Branches of the date and time when patients paid their visit were calculated. The sum of the 4 numerals may divided by 9 on *yang* date and by 6 on *yin* date to calculate the remainder, which is the code for the point to be selected. According to "Song of Eight Methods"(八法歌), the remainders represent respectively the following points: 1 for Shenmai (BL 62), 2 and 5 for Zhaohai (KI 6), 3 for Waiguan (TE 5), 4 for Linqi (临泣), 6 for Gongsun (SP 4), 7 for Houxi (SI 3), 8 for Neiguan (PC 6) and 9 for Lieque (LU 7).

2) Determining the adjunct point and the adjunct channel: According to the principle recorded in the Classic on Medical Problems (难经), Gongsun is the adjunct to Neiguan (PC 6), Linqi (临泣) to Waiguan (TE 5), Shenmai (BL 62) to Houxi (SI 3), and Lieque (LU 7) to Zhaohai (KI 6). And according to the theory for the eight confluence points of the eight extra channels, Gongsun (SP 4) is connected with the Cong Channel, Neiguan (PC 6) with the Yinwei Channel, Linqi (临泣) with the Dai Channel, Waiguan (TE 5) with the Yangwei Channel, Shenmai (BL 62) with the Yangqiao Channel, Houxi (SI 3) with the Governor Channel, Lieque with the Ren Channel, Zhaohai (KI 6) with the Yinqiao Channel.

3) The opening main point was pressed for 4 min until distension was felt, and massaged for 3 min until penetrating heat was felt, which can promote the flow of channel-*qi*. Then, the adjunct point was pressed for 3 min until distension was felt.

4) The channel with the opening main point located was taken as the main channel to be treated. The percussing maneuver was given along the main channel with a proper force to produce a distending sensation. For each of the points distributed along the channel, a stronger force should be exerted for 30 seconds. The percussion was carried out 5 times in the same direction of the channel and another 5 times against the direction of the channel lasting about 10 min. Then, the rubbing maneuver with the thumb was given 3 times in the same direction of the channel and another 3 times against the direction of the channel, lasting about 5 min.

5) The channel with the adjunct point located was taken as the adjunct channel to be treated. The peucussing maneuver was given along the adjunct channel to produce a distending sensation. For each of the points distributed along the channel, a stronger force should be exerted. The percussion was carried out 3 times in the same direction of the channel and another 3 times against the direction of the channel, following by the rubbing maneuver given in the same direction of the channel to produce a distending sensation.

The above intelligent-turtle massage was given 5 times a week, 10 times as a course, for 2 courses with a one-week interval in between.

For the control group

The manipulation described in the medical book 《Massage》 written by YAN Jun-tao[2] were adopted for the control group, which are conventionally used for treating the subhealthy condition. Each session of the treatment lasted about 45 min.

The therapy was given 5 times a week, 10 times as a course, for 2 courses with a one-week interval in between.

RESULTS

Table 2 shows that there is a significant difference in the accumulated scores for the symptoms before and after treatment between the experimental group and control group. Table 3 shows that there is a significant difference in the therapeutic effect between the two groups ($P<0.01$). Table 4 shows that there is a significant difference ($P<0.05$) in IgA, IgM and IgG after treatment between the experimental group and the control group.

Table 2. Comparison of the accumulated scores for improvement of the symptoms between the two groups (score)

Group	Cases	$\bar{x} \pm s$	*t*' (0.05)	*P*
Experimental group	91	8.52±2.89	1.988	<0.05
Control group	91	5.01±1.70	–	–

Table 3. Comparison of the therapeutic effects between the two groups (cases)

Curative effect	Experiment group	Control group	Total
Excellent	38	18	56
Very good	38	29	67
Good	13	30	43
Bad	2	14	16
Total	91	91	182

Note: χ^2=24.0727, *P*=0.0000

Table 4. Comparison of IgA, IgM and IgG after treatment between the two groups ($\bar{x} \pm s$, mg/ml)

Group	Cases	IgA	IgM	IgG
Experiment group	49	3.24±1.12	2.53±0.81	13.40±8.01
Control group	47	1.96±0.91*	1.49±0.72**	9.97±7.16***

Note: **t*=6.1603, *P*=0.0000; ***t*=6.6388, *P*=0.0000; ****t*=2.2088, *P*=0.0296.

ILLUSTRATIVE CASE

A male patient, aged 38, a lawyer, paid his first visit on August 20, 2007. The patient complained of general lassitude for more than 3 years with the cause unknown. He was subject to fatigue with poor spirit, headache, chronic sore throat, constipation, dreaminess, reduced sexual desire and obviously declined memory. He attributed his symptoms to the hard work with heavy mental stress. He underwent CT scan of the brain, chest and abdomen, blood analysis, liver function examination, metabolic and biochemical tests, but with no abnormalities found. He was diagnosed to have CFS, and treated by the intelligent-turtle massage, 5 times a week, 10 times as a course, for 2 courses with a one-week interval in between. The result showed basic disappearance of the CFS symptoms with good spirit, and the accumulated score reduced from 47 before treatment to 6 after treatment. The IgA, IgM and IgG levels were respectively 3.6, 2.4 and 13.0 mg/ml. And no relapse was found.

COMMENTS

Summarizing the reports on CFS epidemiology at home and abroad,[3-7] the authors have noticed that CFS has a fairly high incidence and with an increasing tendency year by year. The clinical manifestations include not only the physical fatigue and other physical symptoms, but also the mental and psychological problems, such as mental depression, anxiety, and suspiciousness. Since the etiology and pathogenesis of CFS are not quite clear, it lacks effective therapies and drugs for the treatment in western medicine. Many scholars think that TCM may show its advantages for treating CFS.[8-10]

TCM has, since the ancient times, attributed CFS to imbalance between *yin* and *yang* due to unrestricted diet, irregular life style, unhappy emotion and keeping no balance between work and rest. In the present study, the intelligent-turtle massage was adopted for relieving the physical symptoms of CFS. As shown in Table 2–4, there was an obvious difference between the two groups in the

accumulated scores for improvement of the symptoms (P<0.05); significant difference was found in the therapeutic effects, with the superiority shown in the experimental groups; and there were significant differences in the IgA, IgM and IgG levels between the two groups. It is indicated that the intelligent-turtle massage is an effective therapy for relieving the physical symptoms of CFS, and it may show certain effects on the immune functions.

REFERENCES

1. Fukuda K, Straus S, Hickle I, et al. The chronic fatigue syndrome – a comprehensive approach to its definition and study. Ann Intern Med 1994; 121: 953-959.
2. Yan JT. Massage sciences. Beijing: Chinese Publishing House of TCM 2003; 228-230.
3. Lloyd AR, Hickle I, Boughton CR, et al. Prevalence of chronic fatigue syndrome in an Australian population. Med J August 1990; 153: 522-528.
4. Kawakaml N, Iwata N, Fujihara S, et al. Prevalence of chronic-fatigue-syndrome in a community in Japan Tohoku. J Exp Med 1998; 186: 33-34.
5. Wang TF, Chen YX, Ji SL, et al. Development of chronic fatigue animal model induced by chronic bounding and observation on the behavior science. Chinese Journal of Basic Theories of TCM 1999; 5: 25-29.
6. Lu YY, Peng Y, Wang G. Recent situation of acupuncture-moxibustion and *Tuina* for regulation and treatment of sub-healthy state. Zhejiang Journal of TCM 2006; 41: 183-184.
7. Wang JH, Lin GH. Observation on therapeutic effects of the intelligent-turtle massage for treatment of 120 cases of sub-healthy state. Massage and Guidance 2006; 22: 1-3.
8. Zhai Q, et al. Chronic symptom syndrome. Foreign Medicine - Section of Epidemiology and Lemology 1989; 146.
9. Wang TF, Zhang CZ, Ji SL, et al. The fatigue characteristics of the patients of chronic fatigue syndrome and the therapeutic action of Chinese herbs. Chinese Journal of Medicine and Pharmacy 2000; 15: 58260.
10. Tang XR. Twelve cases of chronic fatigue syndrome treated with modified Xiaoyao Powder. New TCM 2000; 32: 46247.
11. Wang TF, Xue XL. Sub-healthy state and chronic fatigue syndrome. Chinese Journal of Integrated Chinese and Western Medicine 2008; 28: 77-78.

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